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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/727,980	12/05/2003	Byoung-ho Choi	1793.1015	7265

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EXAMINER	
CHOW, LIXI	

ART UNIT	PAPER NUMBER
2627	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/727,980	CHOI ET AL.	
	Examiner	Art Unit	
	Lixi Chow	2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 April 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-47* is/are pending in the application.

4a) Of the above claim(s) *4-6,12-16,23-28,35,36,44 and 45* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,7-10,17,18,20-22,29-34,37-43,46 and 47* is/are rejected.

7)☒ Claim(s) *3,11 and 19* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *05 December 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of Species A in the reply filed on 4/05/07 is acknowledged. The traversal is on the ground(s) that claims directed to Species B is so closely related to the elected claims of Species A and the generic claims that Species B claims should be examined together with the elected claims. This is not found persuasive because Species A utilizes an amplitude of a wobble signal detected while controlling the focus to discern a type of a writable disc, whereas Species B utilizes a sum time in an active section of a wobble PLL lock signal to discern a type of a writable disc. Because these inventions are independent or distinct for the reasons given above and there would be a serious burden on the examiner if restriction is not required because the inventions require a different field of search (see MPEP § 808.02), restriction for examination purposes as indicated is proper.

The requirement is still deemed proper and is therefore made FINAL.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 2, 17, 18, 21, 22, 29-34 and 39-43 are rejected under 35 U.S.C. 102(b) as being anticipated by Ogihara (US 2002/0075780).

Regarding claim 1:

Ogihara discloses a method of differentiating between a plurality of types of writable discs having wobbles with corresponding predetermined frequencies comprising absolute addresses and/or various pieces of information (see paragraph [0009]), the method comprising:

controlling a focus of a light spot on a recording surface of one of the writable discs using a pickup unit (see paragraph [0033]); and

discerning a type of the one writable disc from the plurality of types of writable discs using an amplitude of a wobble signal detected while controlling the focus (see Figs. 4A-4B and paragraph [0036]).

Regarding claim 2:

Ogihara discloses the method of claim 1, wherein the discerning the type of the one writable disc comprises using the amplitude of the wobble signal which has passed through a band-pass filter having a predetermined frequency (see Fig. 3, element 121 or 122).

Regarding claims 17 and 18:

Claims 17 and 18 recite similar limitations as in claims 1 and 2; hence, claims 17 and 18 are rejected under the same reasons set forth in claims 1 and 2.

Regarding claim 21:

Ogihara discloses the apparatus of claim 17, wherein one type of the writable disc among the plurality of types of writable discs is a DVD-R/RW and another type of the writable disc is a DVD+R/RW (see paragraphs [0037]-[0038]).

Regarding claim 22:

Ogihara discloses the apparatus of claim 18, wherein the discriminator comprises:

a signal processor (see Fig. 3, element 123 or 124) that measures the amplitude of the wobble signal; and

a system controller (see Fig. 1, element 105) that compares the amplitude of the wobble signal with an amplitude of a reference wobble signal to differentiate the disc from the plurality of types of discs (see paragraphs [0037]-[0038]).

Regarding claim 29:

Ogihara discloses a method of determining a type of disc, comprising:

detecting a wobble signal according to wobbles on the disc which have a predetermined frequency (see paragraph [0009]); and

determining the type of the disc as discerned between at least two types of discs according to the detected wobble signal (see paragraph [0009]).

Regarding claim 30:

Ogihara discloses the method of claim 29, wherein:

the detecting the wobble signal comprises focusing a light beam on a recording surface of the disc, and the determining the type of the disc comprises determining the type of the disc according to the wobble signal detected while focusing the light beam on the recording surface (see paragraph [0033]; the controller controls the servo to perform focusing and tracking operation).

Regarding claim 31:

Ogihara discloses the method of claim 30, further comprising transferring data with respect to the recording surface using an information signal other than the wobble signal according to the determined type of the disc, wherein the detecting the wobble signal occurs

prior to transferring the data (see paragraph [0023]; it is inherent that the detection of disc type occurs before reading content data from optical disc).

Regarding claim 32:

Ogihara discloses the method of claim 29, wherein the determining the type of the disc comprises using an amplitude of the wobble signal to discern between the at least two types of discs (see Fig. 3 and paragraph [0036]).

Regarding claim 33:

Ogihara discloses the method of claim 32, wherein the determining the type of the disc comprises band-pass filtering the wobble signal and using the amplitude of the band-pass filtered wobble signal to determine the type of the disc (see Fig. 3, element 121 or 122).

Regarding claim 34:

Ogihara discloses the method of claim 29, further comprising detecting a second signal while detecting the wobble signal, wherein the determining the type of the disc comprises using a ratio of the wobble signal to the second signal (see Fig. 3; LV2 corresponds to the second signal; also see paragraph [0036]).

Regarding claims 39-43:

Claims 39-43 recite similar limitations as in claim 29 and 31-34, respectively. Hence, claims 39-43 are rejected under the same reason set forth in claims 29 and 31-34.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 7, 9, 10, 37, 38, 36 and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ogihara in view of Yamamoto et al. US 2002/0126607 (hereafter Yamamoto).

Regarding claim 7:

Ogihara discloses a method of determining a type of a writable disc having wobbles with a predetermined frequency comprising absolute addresses and/or various pieces of information received by an optical disc system comprising a pickup unit and a servo unit (see paragraph [0009]), the method comprising:

controlling the servo unit in an on-focus state to adjust a focus of a light spot on a recording surface of the writable disc using the pickup unit (see paragraph [0033]);

detecting an amplitude of a wobble signal in the on-focus state (see Fig. 1 and paragraph [0033]);

comparing the amplitude of the wobble signal with an amplitude of a reference wobble signal to obtain a comparison result (see Fig. 4A or 4B and paragraph [0036]); and

using the comparison result to determine if the writable disc corresponds to a particular type of disc (see paragraph [0037]-[0038]).

Ogihara is silent as to setting a default mode to a mode of any type of disc; however, Yamamoto discloses a method of determining a type of writable disc having wobbles with a predetermined frequency (see abstract), the method comprising:

setting a default mode to a mode of any type of disc (see Fig. 9; at step S31, 1st-disk-format frequency range corresponds to the default mode);

detecting a frequency of a wobble signal (see abstract);

comparing the frequency of the wobble signal with a frequency of a reference wobble signal to obtain a comparison result (see Fig. 9, step S32); and

using the comparison result to determined if the writable disc corresponds to a type of disc corresponding to the default mode or another type of disc (see Fig. 9, steps S32, S38 and S33).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to modify the method of Ogihara to set a default mode to a mode of any type of disc during the disc type determination process as suggested by Yamamoto. One of ordinary skill in the art would have been motivated to do this, because the number of step or component required for determining a particular type of disc is reduced (see Figs. 5 and 9; please note the number of component needed in other figures for determining the type of disc, i.e., Figs. 4 and 6).

Regarding claim 9:

Ogihara discloses the method of claim 7, wherein the type of disc corresponding to the particular type is a DVD-R/RW and the another type of disc is a DVD+R/RW (see paragraphs [0037]-[0038]).

Regarding claim 10:

Ogihara discloses the method of claim 7, wherein the detecting the amplitude of the wobble signal comprises detecting the amplitude of the wobble signal using a band-pass filter having a predetermined frequency (see Fig. 3, element 121 or 122).

Regarding claims 37 and 38:

Ogihara is silent as to setting a default mode to a mode of any type of disc; however, Yamamoto discloses a method of determining a type of writable disc having wobbles with a predetermined frequency (see abstract), wherein detecting the wobble signal comprises focusing the light beam according to a default mode, the default mode corresponding to a mode used to transfer data with respect to one of plural types of discs (see Fig. 9, 1st-disk-format frequency range corresponds to a default mode),

the determining the type of the disc comprises comparing the detected wobble signal with a reference wobble signal corresponding to a wobble signal detected using the mode with respect to the one type of the disc to determine if the disc is the one type of the disc (see Fig. 9, step S32); and

the method further comprising transferring the data according to the default mode if the disc is determined to be the one type, and transferring the data according to another mode other than the default mode if the disc is determined not to be the one type (see Fig. 9)

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to modify the method of Ogihara to set a default mode to a mode of any type of disc during the disc type determination process as suggested by Yamamoto. One of ordinary skill in the art would have been motivated to do this, because the number of step or component required for determining a particular type of disc is reduced (see Figs. 5 and 9; please note the number of component needed in other figures for determining the type of disc, i.e., Figs. 4 and 6).

Regarding claims 46 and 47:

Claims 46 and 47 recite similar limitations as in claims 37 and 38, respectively. Thus, claims 46 and 47 are rejected under the same reasons set forth in claims 37 and 38.

6. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ogihara in view of Yamamoto as applied to claim 7, and further in view of Kawashima et al. US 2002/0051412 (hereafter Kawashima).

Regarding claim 8:

Ogihara discloses the method, wherein the optical disk is driven to rotate at a constant linear velocity at the time of recording and reproducing. However, Kawashima discloses a method, wherein a controlling of the servo unit comprises: controlling a spindle motor, which rotates the writable disc, at a constant angular velocity (see paragraph [0007]).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to modify the method Ogihara to control the spindle motor to rotate the disc at a constant angular velocity as suggested by Kawashima. One of ordinary skill in the art would have been motivated to do this, because, better accessibility can be achieved in constant angular velocity control setting (see paragraph [0007]).

7. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ogihara in view of Kawashima et al. US 2002/0051412 (hereafter Kawashima).

Regarding claim 20:

Claim 20 recites similar limitations as in claim 8; hence, the feature claimed in claim 20 is met by Kawashima.

Allowable Subject Matter

8. Claims 3, 11 and 19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

In regards to claims 3, 11 or 19, none of the reference of record alone or in combination disclose or suggest discerning the type of one writable disc from a plurality of types of writable discs comprises **using a ratio of an amplitude of a wobble signal to a sum signal of signals detected by a photodiode in the pickup unit to discern the type of the one writable disc**.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Kanda et al. US 2003/0123358 is cited, because Kanda discloses an apparatus for judging a type of disc mounted at high reliability irrespective of a presence of information recorded or magnitude of disc eccentricity.

Kim et al. US 2004/0090894 and Tada et al. US 2004/0052181 are cited, because both references teach identifying DVD(-) format type disc and DVD(+) format type disc.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lixi Chow whose telephone number is 571-272-7571. The examiner can normally be reached on Mon-Fri, 8:30am to 6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wayne Young can be reached on 571-272-7582. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

LC 6/24/07

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